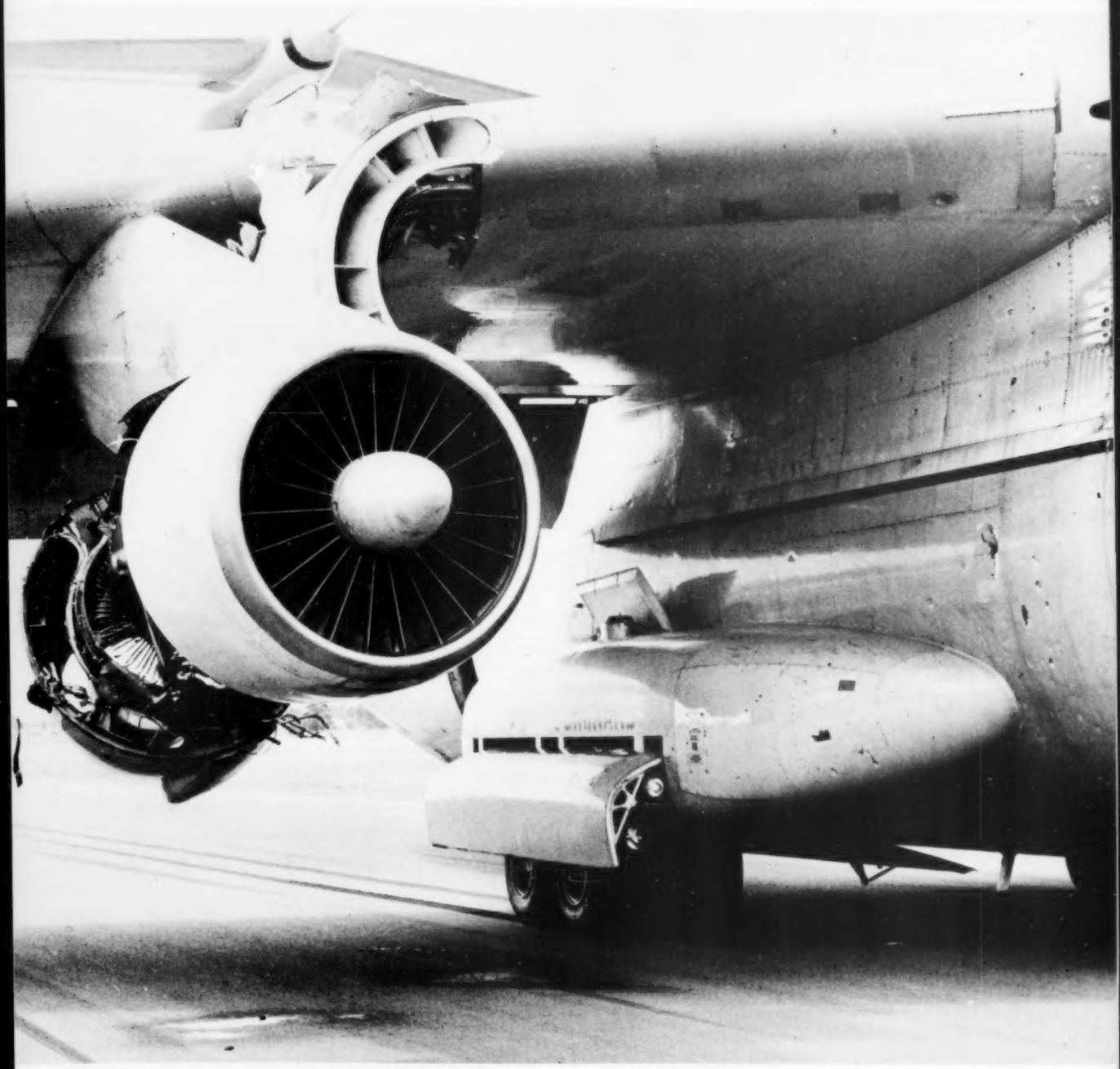
The MAC Flyer

MARCH 1978



A Long Ten Minutes . . . page 4

MILITARY AIRLIFT COMMAND

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For Greater Efficiency
in MAC Air Operations

The MAC Flyer

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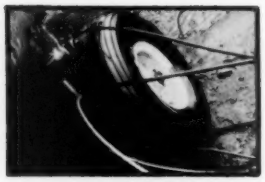
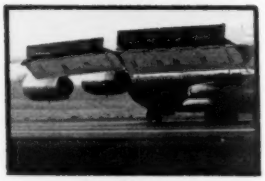


PAGE 14



PAGE 18

PAGE 25

Last Call 3
Mishap with a Moral 4
Conflict Alert 7
Flight Lines 9
The MAC Average 12
Another Bit the Dust 14
The Airlift Legacy 16
Reject! 18
Silent Sermon 21
Deja Vu: Howard AFB 22
The Viewer's Guide 23
The Sage Brush 24
C.R. Terror 25
Quick Stoppers 28

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Contributions, comments, and criticisms are welcome. Write: the Editor, *The MAC Flyer*, HQ MAC/IGFE, Scott AFB, IL 62225, or call: (618) 256-3534 or Autovon 638-3534. The editor reserves the right to change manuscripts to improve them or correct technical errors.

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Last Call

There's less time than you think—the end is near — contest ends 31 March—so get going.

That's right: the sky's falling, the bar's closing, and if you're not manifested, you'll be left behind. The MAC Flying Safety Writing Contest is almost over. The magic date is 31 March 1978—if you get your story in the mail by then, you'll be eligible for all those prizes, notoriety, good OER/APR's, ''attaboys,'' et cetera. If you don't, no C.R. Terror T-shirt, no chance for a walnut plaque; you'll not be eligible to compete for the magnificent desk sets awarded to the top three winners—you'll be a literary outcast with absolutely no redeeming social value. So, come on. Get with it! *Please.*

Well, that's the hard sell—now the soft sell. It's easy. We've heard you tell those stories at the Tahiti Iti and the Vesuvio and at FL 310 en route to a tropical island paradise. And the stories sound so exciting! Why not share your adventure with a fellow aircrewmember? You maintenance folks and weather types, we've heard you complain about those ''winged wonders;'' tell us your story—you're an *integral* part of the fly-safe scene. Wives, husbands, lovers, kids—here's your chance; the contest is open to everybody. Though the wood-grained awards can go only to AF military and civilian, and Air Reserve Forces, all qualified entrants will get the fantastic T-shirt.

Qualifying? That's easy, too. Follow these simple instructions. ● Style: fact, fiction, poetry—virtually anything printable. ● Length: 1,000 to 3,000 words (six to 14 pages); poetry and ''gimmick'' articles will run shorter. ● Format: Typewritten, double spaced. Two copies, please. Identify your creation by title only and attach a cover sheet telling us about you—be sure to include address and phone number.

When you've finished all that, send your prize winner to:

The MAC Flying Safety Writing Contest
HQ MAC/IGFE
Scott AFB, IL 62225

And dream about a C.R. Terror T-shirt of your very own!

Capt Catherine D. Young, C.R.'s newest Angel, proudly shows off her C.R. Terror T-shirt. Cathy is a flight nurse with 57 AES, Scott AFB.

Mishap with a Moral

A Long Ten Minutes

''Two a'turnin' and two a'burnin' '' is a classic excerpt from many a war story. But the crew aboard the struggling Starlifter was anything but entertained.

How long is ten minutes? Sometimes it depends on what's happening. As a Super Bowl announcer might say, ''Don't go away, folks—we've still got nearly ten minutes left, and a lot can happen in ten minutes.''

About four months ago a MAC crew found out that ten minutes of flight can be as full of action as a whole season of down-to-the-wire football games. The crew won their ''game''; but before it was over, the action got very hectic indeed.

There was no indication of anything unusual as the C-141 accelerated down the 7,000-foot runway. It was a pleasant day with the temperature at 18 degrees Centigrade, calm winds, and broken clouds at 2,500 feet. Rotate speed for the 272,000-pound airlifter was 126 knots, one knot below refusal speed. We'll start the clock at liftoff.

5 seconds: The copilot, flying from the left seat, called for gear up. The wheels tucked into the wells and the Starlifter accelerated to minimum flap retract speed (163 knots).

16 seconds: At about 700 feet AGL, number three engine exploded. The third stage turbine split in half; one piece slammed through the right-hand cowling, ripping it from the airplane, and penetrated the number four engine. The left cowling swung upward and jammed into the leading edge of the wing, cutting the wires to the fire warning system.

The other half of the turbine sliced through the fuselage and sawed deep into a cargo pallet, where it started a smoldering fire. Turbine fragments peppered the wing, fuselage, and fuel tanks, starting a small fuel leak and barely missing the troop oxygen system.

Hearing the explosion, the aircraft commander took control of the violently yawing airplane and jammed in full left rudder. From his window he could see the damage to number four engine; the pilot in the jump seat reported number three was on fire. With the number four engine seized, number three explosively disassembled, and the flaps at

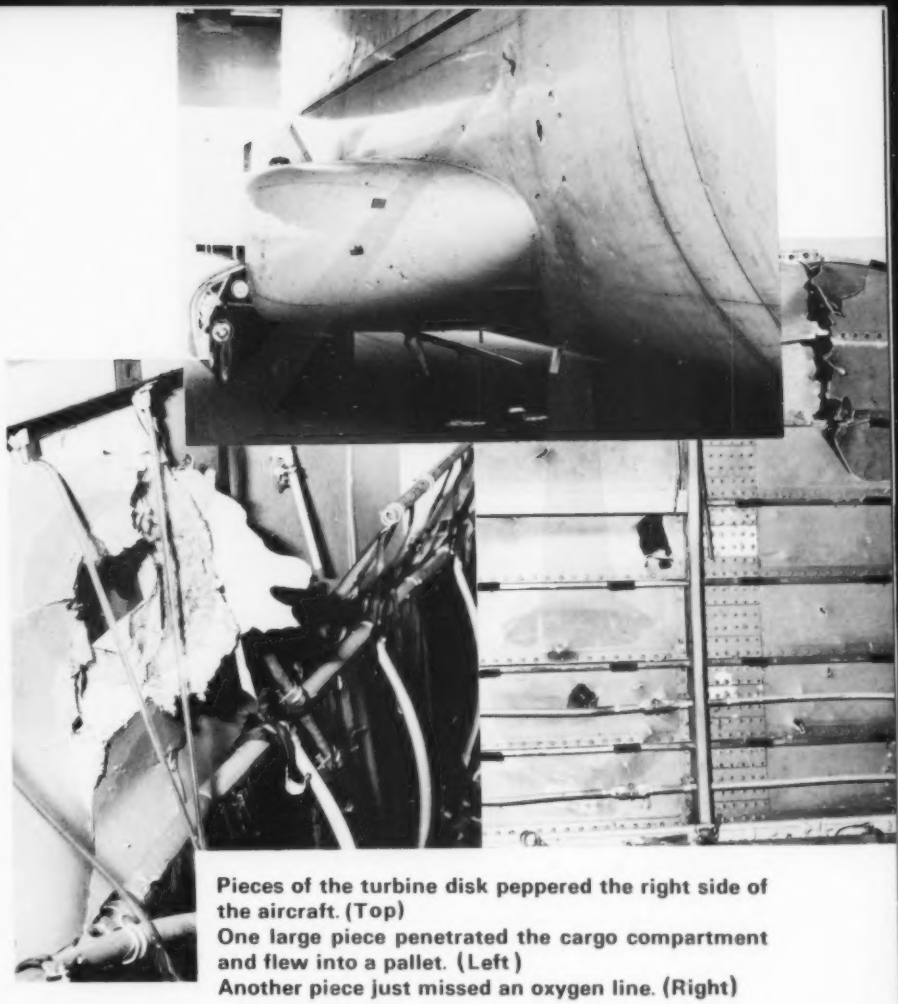
Looking out the right side of the cockpit, the AC saw the damage to number four engine.

approach, even TRT wasn't enough to keep the 141 in the air. The airspeed and altitude began to decrease. As the left-seater began putting in full left rudder trim, the AC jammed all four throttles forward to the stops.

40 seconds: With airspeed still bleeding off, the AC began retracting the flaps in small increments. The jump seat and left seat pilots began making emergency transmissions on the assigned VHF frequency and UHF guard.

1 minute: The AC, not sure he'd be able to maintain altitude, started a shallow left turn to follow a river valley—a possible area for a forced landing. The engineer at the panel noted the readings on the number one and two engine instruments: EPR offscale high, N1 and N2 rpm above redline, EGT near 600 degrees. Finally, at about 135 KIAS the Starlifter began to accelerate as the flaps came up through 25 percent.

In the cargo compartment, the scanner discovered the cargo fire and relayed word to the flight deck. The additional navigator grabbed a fire extinguisher and took it downstairs. The scanner began fighting the fire while the loadmasters got the two passengers on oxygen and began rounding up more smoke masks, oxygen bottles, and fire extinguishers. For the rest of the flight the crew would be shuttling fire extinguishers and oxygen bottles back to the men fighting the fire.



Pieces of the turbine disk peppered the right side of the aircraft. (Top)
One large piece penetrated the cargo compartment and flew into a pallet. (Left)
Another piece just missed an oxygen line. (Right)

2 minutes: The Starlifter's airspeed increased as the flaps came up, stabilizing near 200 knots; altitude was about 900 feet AGL. The pilots discussed a one-eighty for an opposite direction landing, but decided the turn radius into the operating engines made that option impossible. They continued the turn to downwind. In the rear, the extinguishers were having little effect on the deeply buried fire. Dense smoke had cut the visibility to three to five feet.

3 minutes: The AC pulled the number three and four fire handles and reduced power on the other two engines to TRT. Because of the low altitude and distance to the runway, the pilots lost sight of the airfield. They requested vectors while the navigator searched for the field on radar. Because their low altitude restricted the range of the APN-59, the navigator could only pick up nearby ground clutter.

Smoke began to fill the cock-

pit as the crewmembers opened and closed the cabin door to exchange oxygen bottles with the firefighters in the back. The engineer tried various airflow combinations to clear the smoke but had little success. The AC instructed the left-seater to open the manual ram air door near the pilot's windshield; the door couldn't be opened.

4 minutes: An Australian C-130 crew sighted the crippled Starlifter about seven miles abeam the field. Realizing the problem the MAC crew was having in locating the airport, the 130 pilot offered to provide vectors; but his transmission was buried in the intense radio chatter between tower, approach control, other aircraft, and the 141.

5 minutes: Tower cleared the aircraft for a left base and provided a heading of 360 degrees. As the AC initiated the turn he placed the gear handle down; just before the gear locked into place there was a loud noise. The nose gear door had been damaged, possibly because of the yaw during gear extension, but the gear was safe.

The AC, who had briefly pulled back the two good engines to below TRT, pushed them back up to maintain airspeed. With the added drag of the gear, the airplane entered a gradual descent. In the rear, the crewmembers fighting the fire were having trouble with smoke leaking into the smoke masks. Only one interphone cord was long enough to reach the area of the fire, and the crew had to communicate by lifting the smoke masks and shouting.

6 minutes: The scanner decided that opening the troop doors was the only way to get rid of the smoke in the cargo compartment. As he came forward for a restraining harness, one of the navigators solved the cockpit smoke problem by opening the sextant port. The AC spotted the airfield through the diminishing smoke and turned toward it.

The culprit turbine disk retrieved from number four engine and the cargo pallet.

7 minutes: The C-130 crew, still monitoring the MAC aircraft's progress, realized that the 141 had turned too far left for a good lineup. They transmitted a 40-degree heading change, but radio chatter was so intense that the 141 crew missed the transmission. Finally, the message got through, and the AC began a turn to the right.

8 minutes: Less than four miles out, the AC spotted the runway and turned toward it, lowering the flaps to approach. The extra drag demanded power above TRT to hold 500 feet AGL and 165 knots. The scanner, trying to open a troop door, noticed the low altitude and braced himself between two cargo pallets for the landing.

9 minutes 18 seconds: The Starlifter touched down within the first 1,000 feet of runway, slightly left of centerline, at 145 knots. The left seat pilot deployed the spoilers first to the flight position, then all the way. Maximum antiskid braking brought the airplane to a stop with plenty of runway left.

9 minutes 40 seconds: The AC directed evacuation, had the left-seater set the parking brake, and pulled the number one and two fire handles.

9 minutes 55 seconds: The ten crewmembers and two passengers were outside the aircraft, safe, and accounted for. Firefighters began extinguishing the cargo fire.

Although damage to the aircraft placed the mishap in the major accident category, good crew coordination and an excellent sense of priorities had helped prevent total loss of an aircraft, injury, or death. The crew may have felt that those ten minutes were the longest—or shortest—of their lives. But long or short, they were over.

CONFLICT ALERT

Here's how adding automated collision avoidance to terminal radars may make flying a little safer.

Actual approach control transcript—

Approach: Bark 62, cleared for the high vortac approach to runway 33; stop descent at 6,000.

C-135: 62 copies.

Approach: Bark 62, report leaving Oak at 15,000, squawk 0200. Frog 55, turn left, heading 340. You are cleared straight-in tacan approach to runway 33.

C-135: Bark 62 copies cleared straight-in tacan, say again squawk.

Approach: Bark 62, I'm also talking to a Bat 62; squawk 0200. *(Confusing?)*

C-135: Bark 62, departing 15,000.

Approach: Bark 62, roger. Traffic is a flight of nine C-130's coming up at your ten o'clock, seven miles, at 5,000.

C-135: Bark 62, looking—no joy.

Approach: Cube 11, I've got a C-135 passing along there with you now. He is level at 6,000.

C-130: Roger, 11 is looking—no joy. We're just below a cloud deck.

C-135: We just ran through a flight of 130's, passing 5,000!

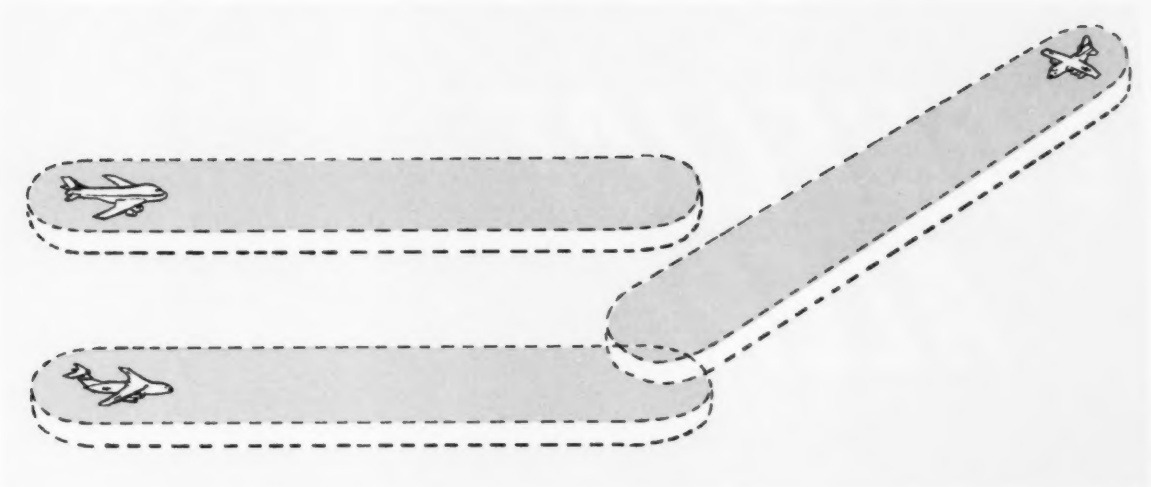
Approach: Calling approach, say again.

C-135: Bark 62, we just ran through a flight of 130's as we passed through 5,000 at 23 out on tacan final.

Approach: Bark 62, you were instructed to maintain 6,000. Make a right turn now to avoid the C-130's and roll out on heading 130.

Busy aircrewmembers, busy controller, crowded airspace, misunderstood clearance—the result: a midair collision avoided by luck. Unfortunately, this is not an isolated incident. But the conflict alert system promises to make us a little less dependent on luck to avoid the consequences of a mistake. The FAA is installing the conflict alert (CA) systems at terminal radar facilities to help the air traffic controller recognize potential conflicts before they become a lucky miss or a disaster.

Conflict alert provides a computer-generated warning to the controller when two aircraft may collide. All 20 FAA Air Route Traffic Control Centers have been using the system for a couple of years, and during 1978 CA will become operational at about 60 *terminal* radar facilities.



Using transponder data, the ARTS III computer projects a capsule of protected airspace for each aircraft.

The Automated Radar Terminal System (ARTS) III computer constructs a popsicle-stick-shaped capsule of airspace for each aircraft from radar data. The capsule is about 400 feet high and 1.2 miles wide. Using a three-dimensional radar tracker, the computer projects the capsule along the aircraft's flight path and can predict when capsules will overlap. Then the CA system sounds an alarm and flashes "CA" on the radar display next to the flights' data tags; the controller can issue avoidance instructions to the involved aircraft.

The key is *participation*. In the beginning the system will only alert the controller to conflicts between controlled aircraft with altitude-encoding transponders. Later the FAA expects to get the computer to recognize conflicts between controlled and uncontrolled transponder-equipped flights. And in the final stage of development, the system should be able to generate a conflict alert for any traffic within radar range.

The conflict alert system provides several advantages for both controller and pilot. The controller gets early warning of potential conflicts and can issue avoidance instructions more efficiently. The computer will filter out some flights which appear to be in conflict, but whose paths will never cross; thus the controller can concentrate on real dangers. CA uses equipment currently installed in ARTS III rapcons and the transponders in many aircraft, so the hardware cost is minimal. The air traffic controller needs little additional training to use the system; the pilot, virtually none.

But a computer-generated system is not the panacea for all airspace problems. FAA cautions, "Computer detection of potential conflicts may *not* occur because of radar limitations (garbled or missing beacon report, etc.) or abrupt aircraft maneuvers." The controller must still judge the validity of the CA, issue instructions to the pilot, who must then . . . but that's another story. The technological sophistication of the CA system is still not a substitute for see and avoid.

Flight Lines

False Feather

There are two ways to feather an engine on the C-123K, neither of which is the prop lever—as your "No Speeding" Quick Stopper, Dec 77, stated.

There is a propeller feather switch and a fire emergency shutdown handle, both located on the overhead engine emergency panel.

We still have over 100 crews in the Air Force Reserve flying the C-123K and enjoy seeing anything in your fine pub on them.

Col Harry S. Jones
355 TAS (AFRES)
Rickenbacker AFB, Ohio

★ **Thank you for the correction, Colonel. Those words came from the incident report—and since *TMF's* staff is terribly short in "Provider" experience, we foolishly believed them. Thereby proving again that old safety adage—"Never assume."**

Flippant *Flyer*

It's ironic that Captain Brady's article citing MAC's "overregulation, overcontrol, and overreaction" appeared in the same issue [Oct 77] as the Quick Stopper about the cancellation of a high-speed C-5's takeoff clearance. However, I am distressed at *TMF's* flippant treatment of the C-5 incident: " . . . no *big* problem . . . a lot of JP-4 turned into decibels and hydrocarbons . . . and a few jangled nerves . . . . "

Incidents like this are reasons that supervision continues to be listed as a causal factor in mishap reports. Obviously you thought there was a lesson to be gleaned from this incident, so why not get to the bottom line: Supervisors, don't make the aircrew's job any tougher than it already is.

Capt Michael T. Farson
AFISC/SEFB
Norton AFB, California 92409

★ **We do little moralizing in our Quick Stoppers—for quick reading we try to pick incidents where the errors are painfully obvious.**

But Some People Like Us

. . . after 25 years in the Flight Safety business, and still very active in the discipline, I find *The MAC Flyer* to be one of the best sources of information and ideas for lectures and presentations. In addition to its educational value, I find it most interesting as well as intriguing [due to] the widely varied approaches taken by your staff and by the winners of the MAC Flying Safety Writing Contest. My sympathy to the judges who had to choose the best

from so many fine works.

If every airline in the world doesn't adopt "SOMEBODY FLY THE AIRPLANE" as its action motif, they aren't doing all they should be doing.

Maj Gen Joseph D. "Smokey" Caldera, USAF (Ret)
Arlington, Virginia

★ **Thank you for the "warm fuzzy", sir—and for your dogged determination to make the world a safer place to fly.**

. . . I did, indeed, enjoy seeing *The MAC Flyer* . . .

Harry Reasoner
ABC-TV
New York City, New York

★ **And we enjoyed your words on helicopter pilots. (*TMF*, July 77)**

. . . a great publication about great people.

Gen Paul K. Carlton, USAF (Ret)
Littleton, Colorado

★ **Thank you, sir, and think snow.**

Day Zha Voo

To aid in our airfield orientation for aircrew training, the 61 TAS is presently building a file on *The MAC Flyer's* "Deja Vu" articles. The C-130's theater of operations includes many airfields with difficult runway environments, many of which have been described by your fine articles.

We've just initiated this project and we're having difficulty acquiring copies of the articles prior to October 1977. Can you help?

Lt Col John D. Butterfield
Commander, 61 TAS
Little Rock AFB, Arkansas

★ **Like fleet service and the crew bus, they're on the way. Glad to help.**

Lockheed Legend

I am a Naval Observer (flight meteorologist) and "Herk" buff. I won my wings flying in Herks during Operation Deep Freeze. I "wintered over" in DF 63 and 66 and. . . was also involved in the met work for the initial C-141 flights/landings in Antarctica.

I hadn't seen your magazine until recently when I came across the January 1977 issue. I very much enjoyed "The Legend of Hercules" and the interview with Leo Sullivan.

For other Herk buffs in your reading audience, I might suggest Martin Caidin's book, *The Long Arm of America* (Dutton, 1963), for background and much flight test data—including a previous interview with Mr. Sullivan, and others. I was also pleased to see a [ski-equipped] Navy Herk as well as the different view of the C-130 on board the USS *Forrestal*.

Thanks for the coverage of a great aircraft.

Lt Bruce F. DeWald, USN
USS *Okinawa*

★ **Seems there are quite a few of these strange persons about—so, Bruce, here's another shot of the Hercules from the flight deck of the *Forrestal*. Make your eyes water?**

For you Herk buffs—a C-130 takes off from the deck of the USS *Forrestal*.

No Parking

Reference the cover of the November 1977 issue of *The MAC Flyer*. The vehicle on the right-hand side of the C-5 is in violation of MAC safety regulations. The vehicle at the nose of the aircraft could be, and the one on the left may be too close. A vehicle should never be parked perpendicular to the line of traffic. Would you look into the situation and let me know if I am correct?

SMSgt R. D. Foust
37 TAS

★ **Sgt Ken Draper snapped the shot on the ramp at Yokota several years ago. And you're right—it *appears* that the vehicles are parked too close to the Galaxy. But perhaps Sergeant Draper used a high-powered telephoto lens, causing the picture to be distorted. In any case, AFR 127-101 says, "When parked on the flightline, vehicles will not be pointed toward an aircraft."**

Weather, Whether or Not

The notice on page 31 of your November 1977 issue about FAA air traffic controllers' not considering weather avoidance their responsibility implies that we USAF air traffic controllers do. We operate under the same rules as the FAA. When requested by a pilot, the controller can only provide weather avoidance when workload or traffic permit. He can only vector around what he sees, and since we want to see aircraft which are much smaller than weather [returns], we have circuits that attempt to eliminate all the weather returns.

Speaking for the 130 McGuire air traffic controllers, we thoroughly enjoy your magazine. Keep up the good work.

Maj Jerry M. O'Brien
1998 Comm Sq
McGuire AFB, New Jersey

★ **Okay. We didn't mean to imply that you folks were any better equipped to help us through the weather. Thanks for the clarification. You navigators out there, keep your radar tuned.**

C-5 in winter's grip from November 1977 *TMF*.

We welcome letters from our readers and print all that space and good taste will allow. Send your letter to:

The Editor, *The MAC Flyer*
HQ MAC/IGFE
Scott AFB , IL 62225

We'd like to have signed letters; however, we'll withhold the name at the author's request. Letters concerning controversial subjects are acceptable, but please address specific issues rather than personalties. We reserve the right to print letters whole or in part. —*Ed.*

Honorable Mention, 1977 MAC

The MAC

Rolling "the average" may not "the average" will help you get

You're sitting in the bar at Clark, watching the bikini-clad lovelies splash into the pool, and the AC, who lost the last round of horses, brings 'em back. As luck will have it, the elimination round leaves you in the finals with the sly, old major navigator. You call, "Three deuces all day."

"Son," the major observes, "that's below the MAC average."

When the drinks come, you unzip your flight suit pocket and pay the waitress. The folks at the bar grab a cocktail napkin and begin to construct a table of the MAC average.

Above

"You get alerted at nine o'clock — *in the morning*." That's above the MAC average.

"You get home at 1500 and you've only been up for *eight hours*." That's above the MAC average.

"You get called by the scheduler and he *does not* say that you are the absolute last guy available." That's above the MAC average.

"You get an 0300 alert at Rhein-Main and discover the snack bar is open, *with a live cook on duty*." That's above the MAC average.

"You get a forecast wind factor of minus 25 and find an actual wind factor of *plus* 25." That's above the MAC average.

"The AC actually *outranks* the field-grade navigator on the crew." That's above the MAC average.

"You finally get on a trip from Travis to Prestwick, bring back that gallon of rare scotch you've been wanting, and the customs officer makes a mistake and charges you duty for a gallon of *wine*." That's above the MAC average.

"A MacZaminer jumps on board just as you are at long last heading home, and *never* comes on the flight deck." That's above the MAC average.

"The AC actually gets down in time to help with the baggage drill and *all* the rest of the crew helps too." That's above the MAC average.

"The caller at 0400 tells you that you *are not* alerted for the Tehran triple shuttle, but you *are* going to Sydney for three weeks TDY as MAC liaison instead." That's above the MAC average.

"C.R. Terror actually follows the regs and uses a real checklist." Now, that *is* above the MAC average.

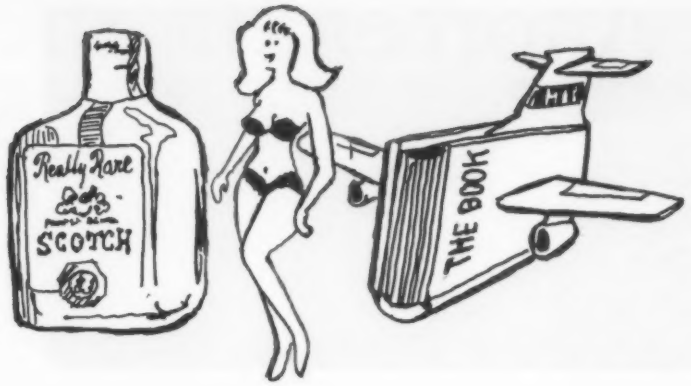
Below

"You accept an airplane with no radar and *numerous thunderstorms* en route." That's below

by Capt Marcus L. Sherrill
Air Force Global Weather Central
Offutt AFB, Nebraska

Average

get you a free drink, but flying there to enjoy it.



the MAC average.

"The lieutenant AC accepts a *really bad* airplane because the DO is hot on this mission." That's below the MAC average.

"The jump seat pilot and the navigator are putting away charts and figuring per diem, the copilot is checking the IFR Sup, and the AC is copying weather information during en route descent." That's below the MAC average.

"The crew blindly accepts a descent clearance *without* checking the local terrain." That's below the MAC average.

"You stuff all those Dash One supplements in the back of the book to update it 'one of these days.' " That's below the MAC average.

"You trust the wingwalker and never *really* check it for yourself, till the crunch." That's below the MAC average.

"You gulp down those last three drinks just before your ten hours start *and then* play cards till four hours before alert." That's below the MAC average.

"The command post controller briefs negative perspiration on the dangerous cargo without really checking it and the crew takes *his* word for it." That's below the MAC average.

"The old man says we're in the red on home-station on-time departures and the staff takes that to mean get 'em off *at all costs*." That's below the MAC average.

"The guard at the airplane assumes the guy in the green bag is one of the crew and doesn't check his line badge, and the crew doesn't check because the guard *must* have checked him." That's below the MAC average.

"You really believe the work in your additional duty will never get done, so you sneak into the office for eight hours just prior to show time." That's below the MAC average.

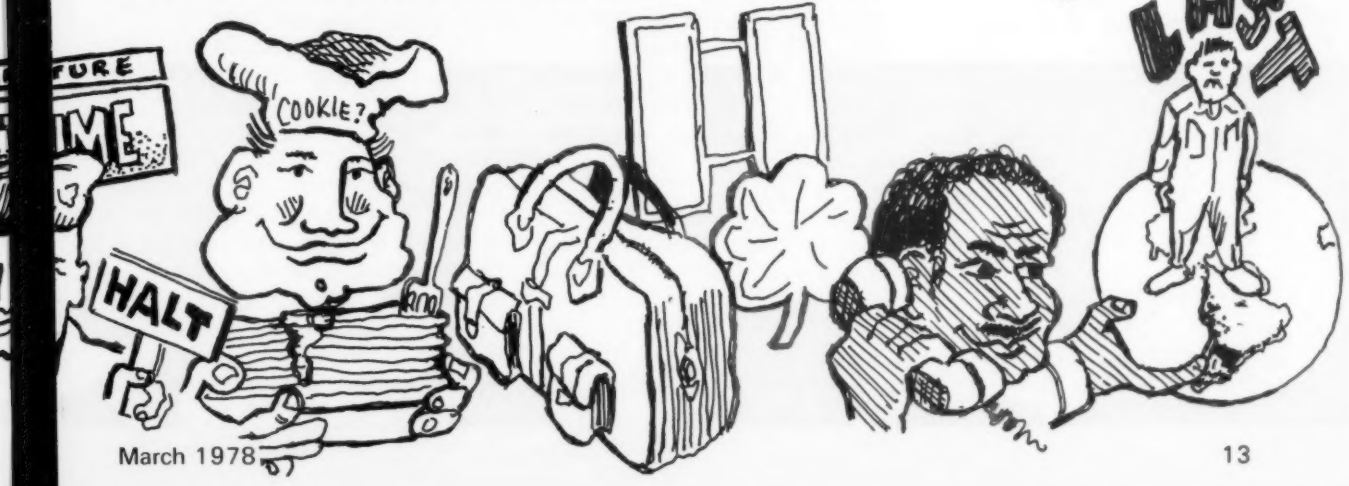
"You press everything, anytime, anywhere, on any job, regardless. In spite of regulations, rules, briefings, common sense and the flight surgeon, you press on because *you are the mission hacker*." That is *really* below the MAC average.

Right On

"You do things by the book, you never forget that accepting a clearance is ultimately up to the crew, you try to get the mission off safely and on time, you know you are a professional, and you stay out of the air when you know you shouldn't be flying."

and

"You roll three fours in one." That *is* the MAC average!



Another Bit the Dust

Helicopters provide rescue and relief agencies the means of transporting much-needed aid to victims of natural disasters. Occasionally, nature's tragedy is compounded by man, as shown in this article and photos reprinted from the U.S. Navy's Approach *magazine. The Navy CH-53 is similar to the Air Force HH-53.—Ed.*

The flight schedule listed the CH-53 crew for a 0700 departure. They were to shuttle troops back and forth between bases and then check in with flood control for other mission assignments. The helicopter aircraft commander and copilot of the accident helo were inexperienced, but were qualified in the model. They were flying together for the first time, and they were looking forward to helping the disaster victims.

The weather that day was 500-foot overcast, rain, visibility three miles, and the winds were calm. The squadron had been in the disaster area for a week providing assistance. The designated landing zone was a grassy area, 150 by 200 feet. The LZ was bounded by two-story buildings with TV antennas on two sides, numerous towers, and at one corner of the landing zone a building made things interesting. Of course, along one side were the ever-present powerlines. The landing zone was the largest, least obstructed area in the city and was capable of handling a CH-53 or two CH-46's simultaneously.

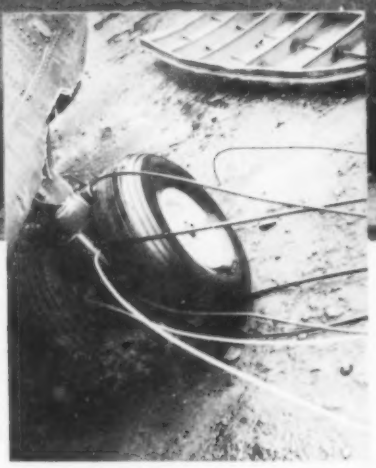
The pilots and crew of the doomed CH-53 were thoroughly briefed before takeoff. They were told to carry out their mission and to return before sunset. After the first part of their mission, they checked in with Disaster Control. They were loaded with 10,000 pounds of relief goods and soon whirled away. They completed that drop without problems and returned for another load.

Again, they were loaded with 10,000 pounds of clothing, rice, and canned goods. The crew looked it over, guessed it weighed about 10,000 pounds as they were told, and fired up their engines. The hover check required 80 percent torque. They took off and proceeded to their drop area. Once over the city, they made several orbits to inspect the zone and to remain airborne until a rain shower passed. Then they made a low approach to further check the zone's suitability. The AC decided it might be tight, but they could make it.

The next approach was made with the intent to land. The AC was on final, 75 feet with 30 KIAS, when he didn't like what he saw and decided to wave off. He applied power, the rotor rpm drooped to 94 percent, and the helicopter began a right yaw. The aircraft commander maintained a level attitude—even climbed slightly—and put in some right cyclic to lessen the yaw. The yaw increased, and balanced flight became a thing of the past.

The turn was taking them directly at a tower, and when the angle of bank was increased to avoid the tower, the CH-53 began to settle and rotate faster. The aircraft commander knew he had to land and picked a service

Final resting place of the CH-53. Arrow in picture at right shows tail rotor on roof. Bottom picture shows powerlines tangled around the left landing gear.



station lot. A crash landing was made, one engine was secured, and the crew abandoned the aircraft. A few moments later, one of the crew returned to secure the other engine, which was still running.

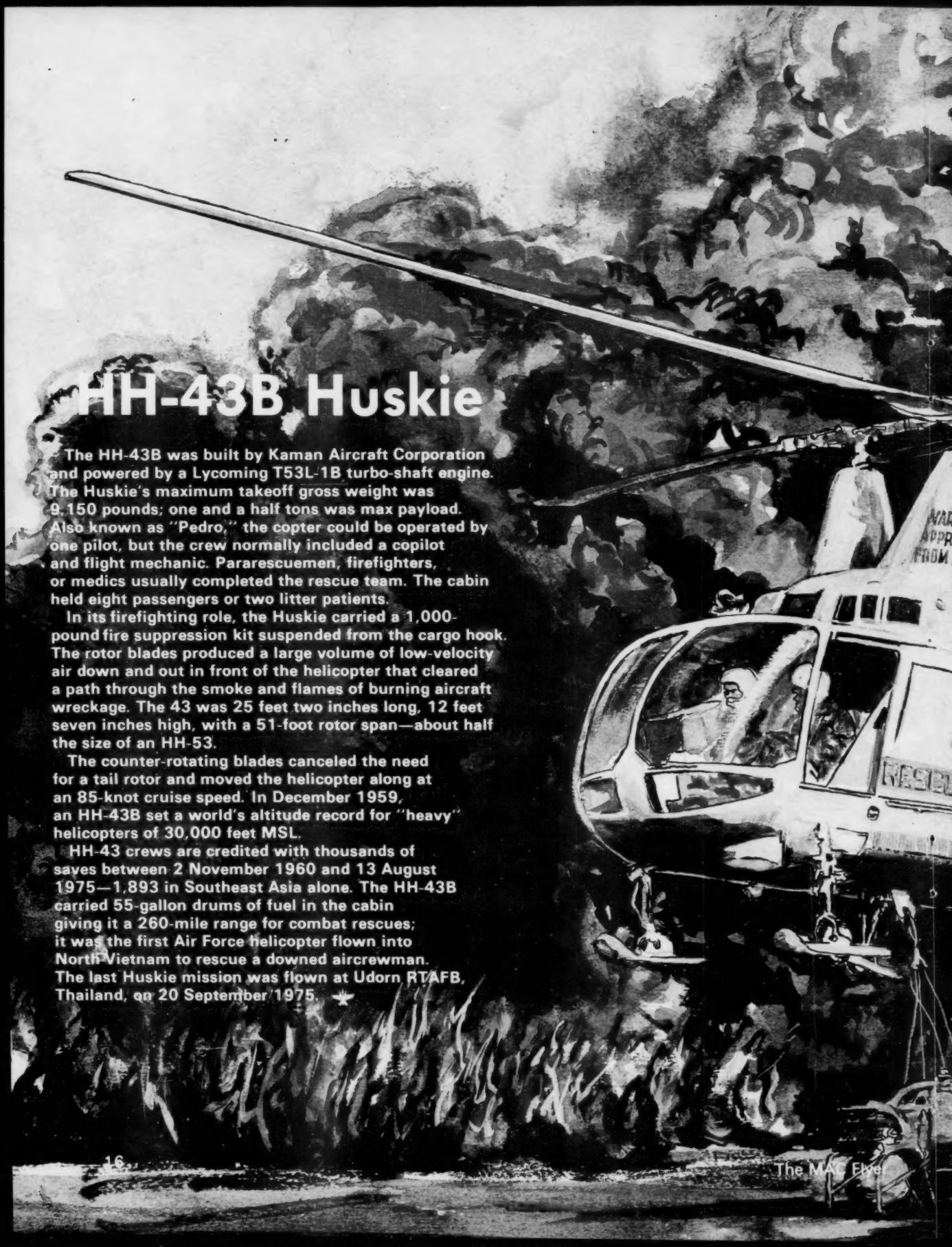
On the way down, the helicopter caught a string of powerlines, hit the roof of the service station with the tail rotor, and struck the ground with the ramp and right main gear. The tail rotor separated from the pylon and came to rest on the roof of the building next to the service station. The main rotor blades chopped off a utility pole, separated from the rotor head, and ended up on the roof of the service station.

Calculated no-wind power required in ground effect was 73 percent torque, and power required out of ground effect was 97 percent. The power available was 111 percent—more than enough.

The pilot overreacted at the time of waveoff. He added power abruptly and became confused when he encountered directional problems. He used improper waveoff techniques. The aircraft was not committed to land at the time of the waveoff, plenty of power was available, and a controlled waveoff could have been made.

The pilots in this accident were lacking on several counts:

- General experience.
- Training time with heavy loads.
- Confined area operations.
- Knowledge of CH-53 directional control problems and tail rotor effectivess.



HH-43B Huskie

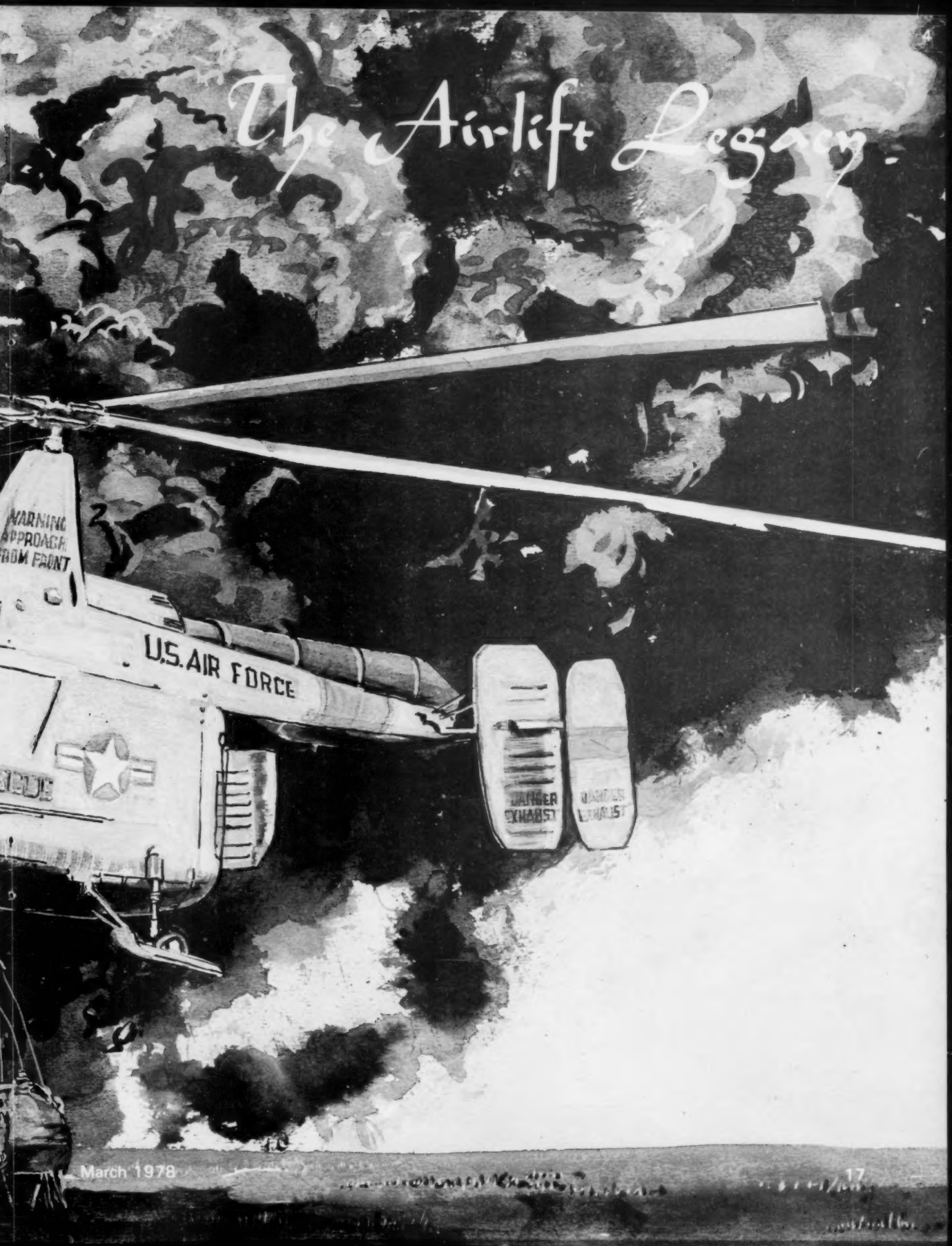
The HH-43B was built by Kaman Aircraft Corporation and powered by a Lycoming T53L-1B turbo-shaft engine. The Huskie's maximum takeoff gross weight was 9,150 pounds; one and a half tons was max payload. Also known as "Pedro," the copter could be operated by one pilot, but the crew normally included a copilot and flight mechanic. Pararescuemen, firefighters, or medics usually completed the rescue team. The cabin held eight passengers or two litter patients.

In its firefighting role, the Huskie carried a 1,000-pound fire suppression kit suspended from the cargo hook. The rotor blades produced a large volume of low-velocity air down and out in front of the helicopter that cleared a path through the smoke and flames of burning aircraft wreckage. The 43 was 25 feet two inches long, 12 feet seven inches high, with a 51-foot rotor span—about half the size of an HH-53.

The counter-rotating blades canceled the need for a tail rotor and moved the helicopter along at an 85-knot cruise speed. In December 1959, an HH-43B set a world's altitude record for "heavy" helicopters of 30,000 feet MSL.

HH-43 crews are credited with thousands of saves between 2 November 1960 and 13 August 1975—1,893 in Southeast Asia alone. The HH-43B carried 55-gallon drums of fuel in the cabin giving it a 260-mile range for combat rescues; it was the first Air Force helicopter flown into North Vietnam to rescue a downed aircrewman. The last Huskie mission was flown at Udorn RTAFB, Thailand, on 20 September 1975.

The Air-lift Legacy



Reject!

The decision to stop your Starlifter can be a tough one when the time and runway get short—so start now.

by Capt Bruce L. Gumble
Associate Editor

Let's say you're on takeoff roll in your almost-grossed-out Starlifter. Let's say the runway is a little bit on the short side and it's wet, so you're using a "go" speed of 127 knots (refusal speed) and a rotate speed of 138. You've just reached 120 knots when a master caution light and door-open light wink on. What do you do?

Not so long ago, a 141 crew decided to reject a takeoff under these conditions. They got the airplane stopped with full reverse and maximum braking but, as they were clearing the runway, tower advised the crew that the bird apparently had hot brakes or a wheel well fire. The crew ran the fire-on-the-ground checklist and evacuated the airplane. When the firefighters arrived moments later, they found five flat tires but no fire.

Investigators calculated that during the stop, the aircraft's brakes had absorbed about 18 million foot-pounds of kinetic energy—the lower limit of the area in which the Dash One says a hydraulic fluid fire and blown fusible plugs are possible.

Here's another one. After takeoff, the Starlifter's left bogie indicator showed an in-transit indication. The crew left the gear down and coordinated with command post for a heavy-weight landing at the departure base. Maintainers adjusted the bogie limit switch and two hours and 45 minutes later the 141 began its second takeoff roll.

The aircraft was accelerating through 120 knots when the engineer noticed the left bogie indicator showing a steady in-transit indication and called, "Reject." After the airplane was clear of the runway the crew checked the brake charts; as in the first incident, 18 million foot-pounds of energy had been absorbed by the brakes. The crew stopped the aircraft, chocked the nosewheels, called for the fire trucks, and evacuated the airplane. The fire equipment

was already on the scene when all eight fusible plugs melted, deflating the tires.

A Chart That's Always Wrong

The C-141 fleet has had a history of problems involving hot brakes and blown tires, and one of the reasons can be found in section V of the Dash One. Most Starlifter drivers are quite familiar with the "Brake Limits" chart in section V and with the requirement to check the amount of energy absorbed during brake application in excess of 60 knots. But any performance chart has to begin with some assumptions, and one of the assumptions in this chart is almost always wrong.

A couple of pages before the chart, under the heading "Brake Limitations," you'll find these words: ". . . the chart is based upon the wheel temperature equaling the runway temperature at the time the takeoff is initiated. This is rarely the situation." As a matter of fact, about the only way that this assumption *could* be correct would be to park the airplane at the end of the runway, leave it there for a few hours, and initiate the takeoff with no taxiing whatever.

Any taxi operation is going to produce heat buildup in the wheel assemblies; even without using brakes, tire flexing and friction will produce heat. High gross weights, high air temperatures, long taxi routes, or downhill slopes which require lots of braking will aggravate the situation. How badly? "Under extreme conditions," warns the Dash One, "this can result in wheel temperatures in excess of 300 degrees F." The fusible plugs are designed to melt at 390 degrees.

There's another trap in section V. If you've rejected a takeoff but haven't used the brakes to slow to normal taxi speed, the book says it's okay to initiate a second takeoff right away. This bit of permissiveness is followed immediately by a warning: "Published RTO distances no longer apply since the wheels and brakes will probably have been subjected to a long duration taxi operation." In other words, it's all right to go but don't expect to be able to stop in Dash One distance if you reject a second time.

(Incidentally, don't let all this discussion about hot wheel assemblies keep you from using the brakes on *landing*. That's a different situation altogether, particularly when the wheels have been cold-soaked at altitude for a few hours.)

Making the Decision

Since aborted takeoffs at high speeds and/or high gross weights are very likely to cost us some wheels and tires—and possibly even an airplane—it seems like a good idea to avoid rejecting the takeoff unnecessarily. But the line between necessary and unnecessary can get pretty vague, and the decision as to which side of that line you're on can be a really tough one.

There's not much guidance in the Dash One about when to abandon a takeoff, and for good reason—there are just too many variables. For example, a CADC-1-inop light might be a good reason to reject. But what if you're heavyweight, almost at "go" speed, and it's a beautiful VFR day? How about the same situation at night with a 200-foot ceiling? Every takeoff is different, and so is every decision on whether or not to continue the takeoff with a system malfunction.

Another example. You've got a runway that's equal to critical field length plus a few yards. "Go" speed is refusal speed. The weather's good. Ten knots before "go" speed, you lose

number two hydraulic system—and with it, your normal brakes and antiskid. Do you reject the takeoff? If you do, can you get the airplane stopped on the runway with emergency brakes? If you continue the takeoff, you won't be able to get the gear up—will you be able to clear the terrain with the wheels hanging?

Making this kind of decision can take a lot of time, and that time isn't available at 100 knots. Besides, if you're flying the airplane and somebody else calls "Reject," the decision is made for you; all you can do is discuss it later while you're watching the tires go flat or waiting for the tug to get the bird out of the mud.

Take Your Time

We said there wasn't time for complex decision-making when you're coming up on "go" speed. But that time *is* available during the departure briefing. Do you use that time, or do you let it go with an "Anycrewmembernotinganunsafecondition" and so on?

Suppose you're the AC, and you've just taxied a 320,000-pound airplane all the way downhill at Andersen. It's about 98 degrees outside, and you were on the brakes more than you were off them on the way to the runway. Do you really want your 300-hour copilot to call "Reject" for a door-open light?

Or suppose you're the flight engineer. You've got a wet runway that's just a little longer than critical field length. It's 0300 local, the whole crew is dog-tired, and instead of an overrun on the far end, there's a river full of piranhas. Are you going to call "Reject" for a low-oil-quantity light? How about a filter-bypass light?

Loadmasters, you can get into the act, too. What if the airplane were well into the takeoff roll and you saw smoke beginning to seep out of a cargo pallet? Has the pilot given you enough information about takeoff conditions to let you judge whether stopping is riskier than going?

No Pat Answers

Once you've made the go/no-go decision, it's easy to focus your 20-20 hindsight on the results and come up with a penetrating, incisive critique. But there just aren't any pat answers that you can have ready ahead of time. The old tradition of "hangar flying" can help a lot; since you won't live long enough to make all the mistakes yourself, you might as well learn from somebody else's. You might also pick up a few ideas on rejected takeoffs from your instructor on your next local or your next simulator ride. But the best way to sharpen up your foresight is a little crew coordination before takeoff. Remember, you're not talking about *any* takeoff; you're talking about *this* takeoff and the conditions that make it unique.

While you're talking, keep in mind the real reason for a rejected takeoff. *A takeoff should be abandoned if continued flight would be unsafe—not just because something breaks.* Also remember that, when the book says you can stop from refusal speed in the remaining runway, there's no guarantee of the condition the beast will be in when you get it stopped.

Look at it this way. You're halfway down an 8,000-foot runway and almost at rotate speed, which also happens to be pretty close to normal touchdown speed. Refusal speed is higher than rotate. Something breaks. You now have two choices:

1. Take off on a 4,000-foot runway, starting at a few knots below rotate speed, or,

2. Get the airplane stopped after a touchdown at the 4,000-foot-remaining marker.

How bad does a malfunction have to be to make you select choice number two?

It's worth thinking about.

Diamonds might be a girl's best friend but baubles become the airman's adversary. This story is essentially true.

by **Lt Col Orlen L. Brownfield**
Supervising Editor

Silent Sermon

Preacher'' and I became acquainted in one of my first trips on our new E-type Hercules. The bird wasn't the only thing that was new—I wasn't too long out of navigator training and Preacher had just finished TTU. But he'd been flight mech'ing A-models at Evreux before, so the 130 wasn't a new experience for him. And it showed; he knew that aircraft better than Larry Lockheed himself.

Even when I was new, I thought I was a pretty good navigator—I guess Preacher thought so, too. And the fact that I was a former three-striper mustang probably contributed to the mutual respect we enjoyed. On the flight deck it was ''Navigator'' and ''Flight Mechanic''; on the ground it was ''Sergeant'' and ''Lieutenant.'' (Who says you have to be on a first-name basis to be friends?) Preacher was a real laugher and scratcher—and we emptied more than a few bottles of beer all the way from the House-on-Stilts at Recife to Joe's-from-Maine in Chateauroux.

I taught Preacher to shoot celestial and he taught me the fuel panel on the Herk. One day, he and I and the loadmaster pulled and padded a generator at Iraklion—he said that made me an honorary flight mech. I accepted the title with pride.

That was a long time ago—now that I think about it, we didn't even call him Preacher then. He picked up that name later, when I was a flight examiner on the 141 and he was an instructor flight engineer. I guess that's what this story is about—how he got his nickname.

I hadn't seen Preacher in months—you know how it is around flying organizations. The week before, I had been up and down the hallway of our squadron ops building many times. Each time my peripheral vision picked up a photo on the bulletin board, but I couldn't bring myself to look directly at it.

It was somebody's finger—that's all. Somebody's unattached finger. Yuk!

Then one day, I was doing some work in the TAC shop when the Preacher came in. His left hand was all bandaged up—looked like he was wearing a white boxing glove.

''What'd you do to your hand, J. P.?'' I started. ''I told you to stay out of places like that!''

He grinned, ''Oh, that's *my* finger down there on the bulletin board.''

I don't know how long it was before I said, ''Well, why the hell did you do something like that?''

The smile went away from his face. ''Cap'n, if I'd known how much it was gonna hurt, I'd never have put a ring on my finger—never.''

The story went something like this. Preacher was out preflighting a Starlifter. I guess he decided to jump from the troop door down to the concrete; his wedding band got hung up in the door rail and removed a finger. The other engineer flagged down a vehicle and got Preacher to the hospital, hoping it would be soon enough. But, no luck.

I guess I hadn't thought much about rings and jewelry before. But, that night, I went home and told my wife about Preacher,''. . . and I'm not going to wear your ring on the flight line any more. There's only one person I love any more than you—and that's me.''

The experience made me a convert, and I started preaching too. Delivering the same message as the Preacher, only I had to use more words. Preacher could deliver his message with a gesture.

''Hey, Nav,'' the young lieutenant called. ''What time ya got?''

''You may call me sir, major, or navigator, Sonny. The time is 1145 Greenwich.''

Then I noticed the ring on his finger. ''Say, Lieutenant. Are you a hardnose about never removing the tie that binds—or did you just forget?''

He shrugged, so I went on. ''I had an old friend once who—''

''Yeah, yeah, everyone had an old friend once.''

A smart one, I thought. I turned toward the engineer's panel. ''Hey, Preacher, this dude needs one of your 'silent sermons.' ''

Preacher looked at me and smiled. He removed his flying glove and held out his left hand to the jump seat pilot. The kid paled, swallowed hard, and took off his ring.

Howard AFB
Canal Zone

*(day-zha-voo), [Fr., lit., already seen], the illusion that one has previously had a given experience.

Howard AFB is five miles southwest of Panama City, near the Pacific (southeastern) entrance to the Panama Canal. Runway 36/18 is 8,000 feet long and 150 feet wide; field elevation is 51 feet. Precision radar and nonprecision approaches are available to runway 36; runway 18 is for visual approaches only. All circling approaches and missed approaches should be flown to the east because of a jungle-covered hill rising to 1,680 feet MSL; three miles west of the airport.

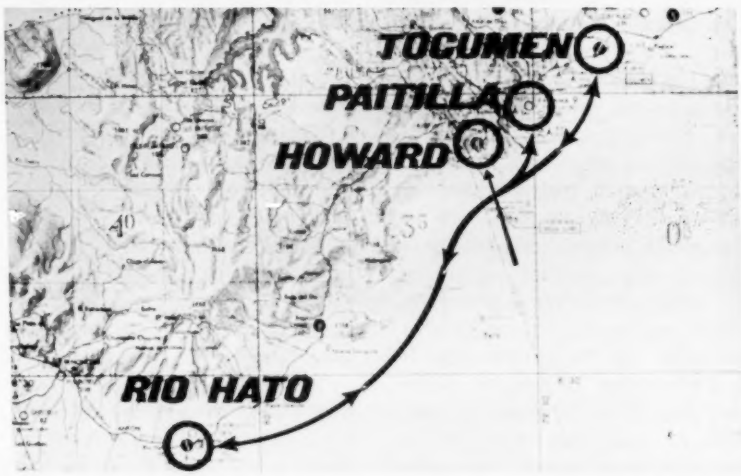
Toboga vortac is the initial approach fix for Howard, as well as two other airports. It sits on Toboga Island, 7.3 miles south of Howard. At the VOR-final-approach-fix altitude, you'll clear the island's highest point by 505 feet. Howard tacan is located near the north end of the runway.

Taking off on runway 18 at night, an aircrew will have no visual references beyond the departure end of the runway. Large black vultures in flocks of 50 to 100 swarm near the airfield at altitudes up to 4,000 feet.

—Adapted from ISD-Q6-362

Two miles on final for runway 36. Note the hills at the left; circling approaches should be flown to the right.

Short final for runway 18. Howard tacan is in the lower left corner of the picture. The short runway on the right is closed.



In the morning and evening, civil aircraft often cross the final approach course as they travel along the coast.

The Viewer's GUIDE

A convenient index to Airport Qualification Programs.

The 57 Airport Qualification Programs (AQP) listed here are available to any Air Force unit and most are on the shelves at your local MAC learning center. You may order programs by ISD number through the base audiovisual library or the Air Force Audiovisual Library, Norton AFB (Autovon 876-2493). Twenty-four new programs covering the Pacific area should be available during the spring of 1978; about 56 more programs are planned for production as weather and audiovisual support allow.

The MAC Flyer's monthly feature, "Deja Vu," is based on AQP's and covers airfields that are unusual and interesting. Frequently included are classic safety hazards—obstructions, terrain hazards, visual illusions, civil air traffic, etc. Our goal, along with that of the MAC training folks, is to make you feel as though you've been there before—that's *deja vu*.

Programs in bold print have been subjects of TMF's "Deja Vu."

Place	Program No.	*TMF* Issue
Alameda NAS, CA	ISD-Q6-723	
Alice Springs Aprt, Australia	ISD-QT-841	
Altus AFB, OK	ISD-Q6-461	
Amberley RAAFB, Australia	ISD-QT-842	
Andersen AFB, Guam	**ISD-Q6-473**	**Nov 77**
Andrews AFB, MD	ISD-Q6-458	
Ascension Island (AF Aux)	**ISD-Q6-442**	**Oct 77**
Ascuncion, Paraguay (Pres Stroessner Aprt)	ISD-Q6-448	
Barbers Point NAS, HI	ISD-Q6-346	
Beale AFB, CA	ISD-Q6-348	
Bergstrom AFB, TX	ISD-Q6-819	
Buckley ANGB, CO	ISD-Q6-597	
Cape Newenham AFS, AK	ISD-Q7-911	
Cape Romanzof AFS, AK	ISD-Q7-912	
Charleston AFB, SC	ISD-Q6-449	
Christchurch IAP, New Zealand	ISD-Q6-479	
Dakar/Yoff, Senegal	ISD-Q6-441	
Dover AFB, DE	ISD-Q6-450	
Dyess AFB, TX	ISD-Q6-456	
Eielson AFB, AK	ISD-Q6-466	
General Lyman Fld, HI	**ISD-Q6-356**	**Jul 77**
George AFB, CA	ISD-Q5-060	
Gray AAF, TX	**ISD-Q6-459**	**Feb 78**
Guantanamo Bay NAS, Cuba	**ISD-Q6-357**	**Dec 77**
Hickam AFB, HI	ISD-Q6-360	
Hill AFB, UT	ISD-Q6-454	
Howard AFB, CZ	**ISD-Q6-362**	**Mar 78**
Indian Mountain AFS, AK	**ISD-Q7-914**	**Aug 77**
Johannesburg, South Africa (Jan Smuts Aprt)	ISD-Q6-437	
Kaneohe Bay MCAS, HI	ISD-Q6-365	
Keesler AFB, MS	ISD-Q7-904	
Kirtland AFB, NM	ISD-Q6-366	
La Paz, Bolivia (J. F. Kennedy IAP)	**ISD-Q6-364**	**Jan 78**
Learmonth Aprt, Australia	ISD-QT-840	
Little Rock AFB, AR	ISD-Q6-457	
March AFB, CA	ISD-Q5-059	
Mather AFB, CA	ISD-Q6-369	
McChord AFB, WA	ISD-Q6-453	
McClellan AFB, CA	ISD-Q6-370	
Montevideo, Uruguay (Carrasco IAP)	ISD-Q6-447	
Norfolk NAS, VA	**ISD-Q6-462**	**Jun 77**
Norton AFB, CA	ISD-Q5-047	
Ohakea RNZAFB, New Zealand	ISD-QT-843	
Pago Pago Aprt, American Samoa	**ISD-Q6-476**	**May 77**
Perth IAP, Australia	ISD-QT-839	
Peterson AFB, CO	ISD-Q6-598	
Quito, Ecuador (Mariscal Sucre Aprt)	ISD-Q7-918	
Richmond RAAFB, Australia	ISD-Q6-477	
Santiago, Chile (Pudahuel IAP)	ISD-Q6-445	
Seneca AAF, NY	ISD-Q7-916	
Scott AFB, IL	ISD-Q6-599	
Sondrestrom AB, Greenland	**ISD-Q6-377**	**Sep 77**
Sparrevohn AFS, AK	ISD-Q7-913	
Tatalina AFS, AK	ISD-Q7-960	
Tegucigalpa, Honduras (Toncontin IAP)	ISD-Q7-917	
Travis AFB, CA	ISD-Q6-452	
Wainwright AAF, AK	ISD-Q7-910	

The SAGE* BRUSH
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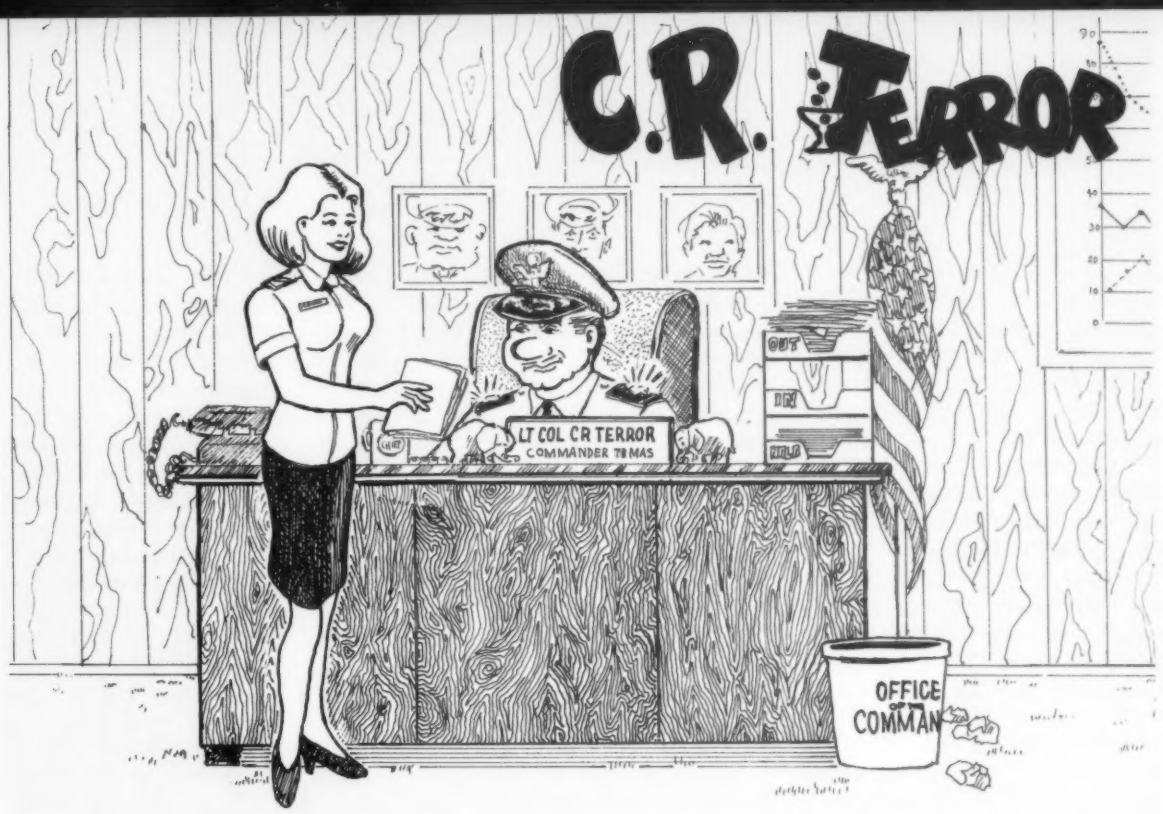
PIECE O CAKE:
STICK, RUDDER,
& KEEP IT BETWEEN
THE WINGTIP LIGHTS...
SEAT, PILOT, ARMED
PROP. L.A. COLISEUM
RETURN TO VENDOR
AFTER GAME
REST, ARM, NARROW.
CHOKE
GEAR
FLAP
TILT
NO STEP
FARA
COINS
IF YOU DON'T KNOW
WHAT IT DOES, HAVE
THE NAVY FLY IT.



The Rotund One learns that a soft chair can be a very uncomfortable place to sit.

"The nerve of that Twinkie," C.R. roared. "Chewing on me, the world's greatest aviator, for an insignificant parking ticket."

"Well, sir, you *were* parked in the wing commander's slot," Sammy soothed from the right seat. "That doesn't exactly make a squadron commander happy."

"Are you kidding, Sammy?" the Bold One said in disbelief. "Being a squadron commander has got to be the easiest job of all. Why, he's got the best troops in the Air Force, sits in that mahogany-paneled office, and smokes big cigars. No 16-hour crew duty days—no greaseburgers—no thunderstorms—no weather prevaricators—no ACP antagonists—no maintenance malfeasance. I'll take his plush leather chair any time."

Sammy shook his head.

". . . anytime." C.R.'s voice faded as he pulled the recline lever and leaned back in his seat.

"Oh, Colonel Terror," the vivacious lieutenant called softly. C.R. sat up in his seat and gazed at the mahogany paneling around the office and the big oak desk in front of him. He closed his eyes tightly, then opened them again—the surroundings had not changed.

He looked down at his blue shoulder boards. My God, I'm a lieutenant colonel! he thought. Then he saw the carved Thai desk set—Lt Col C.R. Terror, Commander, 78 MAS.

"Colonel Terror!" the lieutenant called with more force. "Colonel Backbight said you were to call him right away!"

"Ah, yes, Pigeon." The Bold One straightened his tie. "Backbight?"

"Yes, sir—the wing commander," she said, smoothing out C.R.'s ruffled lock. "You certainly are cute when you've been asleep."

"Dismissed!" the Cuddly Commander commanded. "And get me Colonel Backbight on the phone, Lieutenant, er,ah—."

"Taylor," she smiled slyly. "You needn't be so formal, sir. Call me Tassels."

Deja vu, C.R. thought. There's something familiar about that girl.

". . . Terror, I want you and that young captain in my office first thing in the morning!" Backbight boomed over C.R.'s telephone speaker. "We'll have breakfast, heh, heh. The menu has a main course of 'crew

delay.' "

"Yes, sir!" The Round One stood at attention and saluted the receiver. "We'll be there."

"Of course, you will, Terror. Of course, you will." (click! buzz)

"Lieutenant Taylor, you'd better get me Captain D. Leigh on the phone," C.R. shouted through the open door.

"Yes, sir." She appeared in the door with an armload of paper. "But you'd better get to work on these OER's, sir, they have to be in today."

She laid the big stack squarely in the center of the Raucous Rater's desk. "I have them lined up. The top seven are the 'ones,' next are eight 'twos,' 14 'threes' and one 'four.' "

"This top one, Lieutenant Fairhair," C.R. studied the form, "Isn't this the dude who busted his dollar ride?"

"Yes, sir," Lieutenant Taylor replied. "But he's the wing commander's paddle ball partner."

"Oh." C.R. understood. "And how about these others?"

"Well, the next four are the 'fearsome foursome.' They're the squadron golf team." Tassels thumbed through the folders. "Then, me. And finally, Lieutenant Ham Hand—our MAC ARMS specialist."

"Oh, good grief," C.R. complained. "Are we going to fight the war with golf clubs and paddle ball racquets?" He continued through the stack to the bottom. "This guy, Goodstick, how come he gets a 'four'?"

"Sir, you seem to have forgotten," Tassels replied. He doesn't have his PME or PhD. All he does is fly, fly, fly. Besides, he's the one that poured a drink in your shoe at the last squadron party."

"Oh, hell, that's nothing! I remember once when—"

"Yes, sir, I've heard some of the older types talk about the good old days, free whisky and naked women and all that stuff. It would have been wonderful to live in those days." Tassels smiled dreamy-eyed.

"Wait a minute—I'm not that old."

"Well, enough reminiscing," she said. "Just sign these, I've already marked the blocks."

"But, I don't have to stick by any quotas. Let's change—"

"Sorry, sir, *they* say you must."

"They?"

"*They*."

"Oh."

"I'll get Captain Leigh for you, sir."

"Huh? Oh, yeah. Thanks, Taylor."

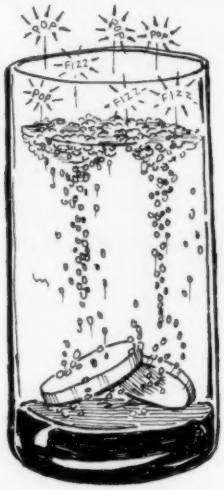
"Call me Tassels." She smiled demurely.

"Captain Leigh, this is Colonel Terror. I want to thank you for getting my buns in trouble over this crew delay of yours. Now tell me what happened."

"Crew delay?" The young captain's voice crackled in C.R.'s ear. "Those command post numbies kept us waiting 45 minutes for the crew bus. Then, when we couldn't find any place open to eat, we had to go to the chow hall."

"Sounds like a bunch of garbage to me," C.R. grunted.

"Always is at the chow hall, sir." The captain interjected and continued. "When we got to the aircraft and found one of the attitude gyros inop, I called 'mother.' They wanted to know if I'd take the airplane that way. I asked the guy if he was rated. They didn't appreciate that."



"Well, the wing commander wants to see us in the morning," the Bold One advised. "If he doesn't buy your story, you could be a captain a long time."

"Right on, Colonel." The captain chuckled. "What can they do to me? I'm already in the '67 year group."

"Understand. I'll see you at headquarters at 0730—and be in uniform!"

"Yes, sir."

C.R. hung up the phone and walked to the door. "Well, Lieu-

tenant Taylor, what's next?" The Legendary Leader was beginning to feel the power of his position.

"Yes, sir. We need to tie up this IG complaint." Tassels handed a large folder to her Bulgy Boss. "Then this Congressional investigation is done in draft—it's due by the close of business today."

"Oh, good grief." C.R. sighed. "What happened to the romance of flying?"

"Yes, sir. That brings up the U.I.F. on Captain Snapper."

"U.I.F.?"

"Uh, huh." Tassels nodded. "That's an Unfavorable Information File. Seems that Captain Snapper made unbecoming advances toward the D.O.'s wife."

"How so?" the Curious Commander questioned.

"Well, he purportedly bit her on the big toe at the last dining-out."

"How come she had her shoes off?"

"I guess she didn't, sir." Tassels responded. "That's why she got so mad—he absolutely ruined her Hush-Puppies."

"Big toe? That's freaky." C.R. laughed. "Where did this guy come form?"

"Former fighter pilot, sir." Tassels chuckled too. "You know—'open mouth—insert foot.' Oh, that reminds me, don't forget your luncheon with the squadron officers' wives. You said you'd explain DOPMA, per diem, and the new OER system to them."

"I did?"

"Yes, sir. And here's your eleven o'clock Alka-Seltzer and Pepto-Bismol."

C.R. sank wearily into his plush leather chair and took his daily medication. "Is there any good news?"

"I don't know, sir. But Colonel Magellan, your ops officer, is waiting to see you."

"Magellan? Send him in."

Lieutenant Taylor left and a tall, distinguished lieutenant colonel entered the office and popped a salute. "We've got a couple of problems here, boss. The MAC auditors are looking hard at aircrew in-flight meal consumption. Claims the crews aren't declaring them on the per diem forms."

"Hell, I've never declared them—you're allowed two per day without putting them on the form," the Legal Fleagle announced.

"Not so, sir," his ops officer declared. "Both officers and enlisted have to list each flight lunch purchased."

"Son-of-a-gun," C.R. said. Being a squadron commander is a didactic experience, he thought—and it was supposed to be so easy.

"Anything else?"

"Yes. It looks like Shanwick Oceanic caught another one of our INS birds 120 miles north of course. The wing commander isn't going to be too happy—it was your idea to send that one navigatorless. By the way, have you heard the latest pilot joke?"

It was then that the Bold One noticed his ops officer was wearing navigator wings.

"I'd rather not."

"Well, anyhow, Sergeant Boom is in the stockade for beating his wife. You'll have to sign the Article 15 papers on Lieutenant Loser for flushing his line badge down the commode. And last night the pilot and navigator on the alert crew got married. The base commander is really unhappy; he doesn't know it's one of our women pilots. Isn't that a scream!"

"No! No! I can't take any more!" C.R. shouted.

Long Suffering Sam looked over at his Bulgy Boss, writhing in pain in the left seat. "Major Terror, is there anything wrong?"

The Sleepy Skipper awoke with a start. "M-M-M-Major," he stuttered and looked at the gold plastic insignia on his round shoulders. "Wrong? *Wrong?* Are you kidding? I've got the best job in the world!"

Quick Stoppers

All Play, No Work

Everything seemed normal when the C-130 crew checked flight controls before takeoff, and the aircraft rotated for liftoff as advertised. But after the gear was in the wells, the pilots found that the yokes would move back and forth as much as ten inches without any elevator movement; when the yokes were released, they oscillated loosely about six inches. The Herky crew selected 100 percent flaps to increase back pressure on the control column, made a controllability check, and completed a normal landing. Replacement of a faulty elevator boost package cured the problem

C-5 Cowl Flap

The Galaxy's number four engine cowl doors had a history of slippage problems, so maintainers weren't too surprised to find the number one lock out of adjustment. During the adjustment process, they found the number two lock was bad and replaced it. When the work was completed, everything seemed okay—except that the number two cowl door latch wouldn't indicate locked. The wrenchbenders unlocked the other five latches; the cowl doors stayed firmly closed, so the discrepancy was signed off as an indicator problem.

What they didn't know was that improper eyebolts had been installed in the number one and two latches, and that the latches were not actually locked but merely wedged into place. On the subsequent takeoff roll, the forward half of the right cowl door was blown off the engine and the left door was torn in half. The "indicator problem" had caused quite a flap—$133,133.24 worth, to be exact.

Hidden Hazard

There's been a lot of attention paid to the dangers of unmanifested hazardous cargo over the years, but the incident reports still keep coming in. Here's another one.

During final approach, the Starlifter's loadmaster reported irritating fumes coming from the cargo, but he wasn't able to determine the source. There was no hazardous cargo listed on the manifest, there were no hazardous material labels on the cargo itself, and the AC hadn't been briefed on anything other than general cargo, so there was nothing to do but press on with the landing. By the time the Pratt & Whitneys were shut down, the fumes were strong enough to cause headaches and mild dizziness; the crew departed the aircraft for purer air.

Investigators checked the cargo and found 143 gallons of lacquer thinner and other flammable liquids on the number two pallet. Eighteen gallons of the total were in one-gallon cans packed loose in the pallet; several of these were dented and showed signs of leakage.

Saved by an Eyeball

On departure from a western air base the many-motored jet was cleared to an altitude of 5,000 feet. During the climb, departure control advised the crew of VFR traffic; they reported that they were looking. But they apparently didn't see the traffic, nor the C-141 in a holding pattern at 6,000 feet directly ahead of them, nor their altimeters as they passed through 5,000 feet and kept climbing. The Starlifter crew spotted the oncoming Boeing and took evasive action; miss distance was 200 to 300 feet.

Garbage In . . .

The crew of the Hercules was preparing for an airdrop of Army troops when they got the word that they were placed on indefinite weather hold. C'mon into ALCE and we'll change it to an airland operation. Okay.

But while the officers were inside working out plan "B" and the loadmaster and crew chief were on board reconfiguring the C-130, several of the troopers gathered around the back of the aircraft and had a preflight lunch of C-rations.

When the rest of the crew returned to the aircraft and began preparing for takeoff, the crew chief noticed a couple of empty C-ration cans in the cargo compartment air conditioner inlet scoop. They were duly removed and all engine inlets were checked to see if they had also been used as garbage containers. The crew found nothing.

The fact remains that, while nearly all aircrewmembers realize the effects of FOD, some of our nonflying buddies think turbines make great garbage disposals.

Murphied Herk

During engine runup the C-130 crew noted low torque on number four engine, so they shut down the inboards and taxied back to parking. Before shutting down the outboards they noticed that the number two hydraulic pump pressure-low light was not illuminated and turned off the number one hydraulic pump switch to troubleshoot the problem. The utility hydraulic system pressure, which should have dropped with both pumps turned off, remained normal—but seconds later, the number one engine flamed out.

Investigators found that the electrical connections for the fuel shutoff and hydraulic shutoff valves had been reversed in both number one and four dry bays. Thanks to this classic Murphy, turning off the hydraulic pump switch closed the firewall fuel shutoff valve and caused the flameout.

The One That Got Away

Sometimes a helicopter crew, like a fisherman, can hook one that's just too big to reel in. The HH-53 was to deliver an emergency radio to a distressed ship which had lost communication with rescue vessels. The winds and sea-state seemed okay, so the aircraft commander established a 75-foot hover while the flight mechanic put the radio into a helmet bag and attached the bag to the forest penetrator for better stability. The penetrator had just reached the deck when an exceptionally large swell arrived, rolling the ship rapidly. The FM lost sight of the penetrator and went to max extend on the hoist; but as the ship fell, the cable broke about 20 feet above the penetrator. As it snapped upwards, the cable struck the FM's gloved hand, breaking a finger, and wound up in the vicinity of the number two EAPS. Fortunately, it missed the rotor system, so the crew survived to tell their "fish story."

QS

Hercules Nose Bleed

It was a local training flight; the E model was carrying the crew through its initial climbout when the navigator reported that he had lost his radar— suddenly and without warning. No big problem. But then, minutes later, the crew heard two or three loud ''thumps'' coming from up front.

They unanimously agreed to return the sick Herk to maintenance and entered holding at 4,000 feet awaiting sequencing. About that time a loud noise of rushing air began to emanate from somewhere up front. Good time to get the beast on the ground and parked. The crew did exactly that, declaring an emergency and making an uneventful landing.

What they found when they deplaned was a crack 15 inches long in the radome. It seems that a thermostat had malfunctioned, allowing extra bleed air to be funneled into the Herk's radome anti-icing ducts. The hot stuff weakened the radome, which eventually collapsed. The ''thumping'' noise probably was caused when the antenna struck the crumping radome.

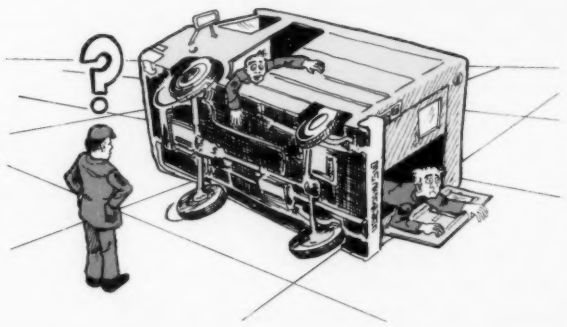
Blow the Van Down!

Imagine the surprise of the C-5 aircraft commander when he found out that, during taxi, his jet blast had blown over a classic USAF bread-truck. He felt that he hadn't used excessive power turning into the parking spot; the aircraft weighed only 379,000 pounds. Even the marshallers stated the Albert was taxiing slowly!

Imagine the surprise of the van driver when he climbed down the crew entrance ladder of another C-5 to find his machine lying on its side. And he had carefully parked his van outside the circle of safety!

Imagine the surprise of two individuals, seeking protection from the Galaxy's jet blast, who climbed into the van as it was about to do a one-point roll. Neither was hurt in the truckrobatic display.

At the time of the incident, winds were out of the northwest at 20 to 25 knots. The C-5 was completing a turn through a northwesterly heading when the mini-windstorm occurred. The Dodge van sustained only minor damage.



Notable Quote

Statistics are like a bikini; what they reveal is interesting, but what they cover is vital.

—Approach

after deadline

"COME HERE, Windsock! You cuddly canine," purrs Tassels. "C.R., be sure to send Mr. Ed Fansher of Scott AFB, Illinois, all my thanks and a big kiss for solving our canine conundrum. 'Windsock' is such a perfect name, the way he hangs around airports with his nose into the wind."

"Right, m'little pigeon, and there's a priceless C.R. Terror T-shirt for Ed, just as I promised last December," replies the Rotund One.

IF YOU CAN'T PULL IT, reach it, turn it, or operate it from your flight station because your flight suit doesn't fit or your objective is too far away, the life support people are interested. AFSC's life support SPO is analyzing problems that arise because a crewmember (male or female) is naturally small. The SPO needs inputs from small-statured aircrewmembers explaining their problems with equipment and clothing and possible solutions. Tell your wing life support officer and he'll pass it along.

AN ICE SURPRISE can be waiting for the crew who doesn't act quickly when encountering unforecast icing. Most aircraft anti-ice systems are just that--anti-ice systems--not de-icing systems. They may not shed heavy icing once it builds up on the aircraft. Recently, ice buildup on aircraft has caused engine stalls, compressor damage, and flameouts. Besides increasing gross weight and fuel consumption, ice changes the shape of the airfoil which can increase stall speed dramatically.

RADIO-CONTROLLED AIRPORT LIGHTING is becoming increasingly popular at civilian fields as an energy-saving measure. Keying the mike a certain number of times on a specified frequency (when the tower isn't operating) turns on the runway and approach lights and, in some cases, adjusts their intensity. After a fixed interval (usually 15 minutes), they're turned off automatically. General information on operating the system is in the Legend section of the IAP books. Specific frequencies are printed on the approach plate for the airport.

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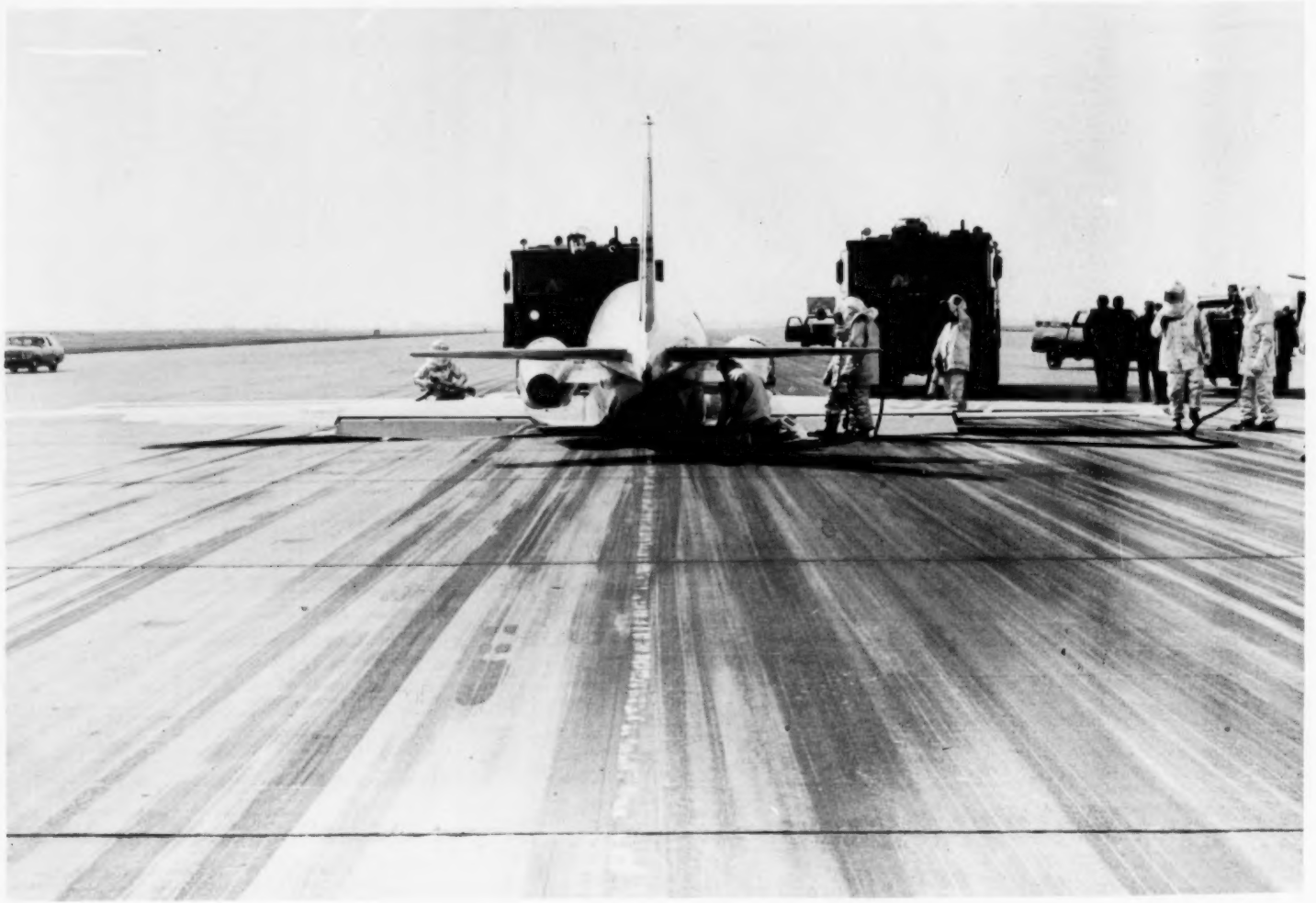
Touch 'n Go



No, *you* talk to the general, *I'll* call the crew bus.